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Ann H. Cary

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Data Driven Policy: The Case for Certification Research

Ann H. Cary, PhD, MPH, RN, A-CCC

This article describes the program of research being implemented to investigate the outcomes of certification in the U.S. and Canadian workforce and its relevance to the goal of providing policy makers with pragmatic, action-oriented recommendations. Such recommendations encompass policy issues of workforce production, regulation, distribution, financing, and oversight of credentialing organizations. Few studies exist to substantiate the association between certification credentialing and practice outcomes, thereby leaving policy makers, consumers, and nurses in a vacuum when pushed to protect the public through the credentialing vehicles. The Nursing Credentialing Research Coalition (NCRC) has embarked on a research program that will reveal the relationship between certification and its influence on a nurse's personal, professional, and practice characteristics as well as those judged by consumers and employers. Selected findings and implications for policy are described. Certified nurses' reports of early interventions for complications are important quality measures for policy.

Policy research is a mixture of science, craftlore, and art. The science is the body of theory, concepts, and methodological principles; the craftlore, the set of workable techniques, rules of thumb, and standard operating procedures; the art, the pace and manner in which one works.

—Rossi, Wright, and Wright (1978, p. 173)

Quality health care is on the public's mind. Although defining quality is complex, consumers, employers, payors, and policy makers are asking savvy questions about the competence of health care providers. Initial licensing examinations attest to the knowledge and skills required to provide minimally safe care; the question remains, however, as to whether licensure should confer a lifelong ticket to practice (Gray, 1998). Both certification and accreditation are used by nurses to document distinctive levels of practice after licensure. Clearly, the credibility of providers and accountability of organizations that issue certification credentials are central to both public support and protection of the public health and welfare, a central value of U.S. health care policy.

Credentialing in the profession of nursing is defined by the International Council of Nurses (ICN) (Styles, 1999) as the following:

processes used to designate that an individual, program, institution or product has met established

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standards set by an agent (governmental or nongovernmental) recognized as qualified to carry out this task. The standards may be minimal and mandatory or above the minimum and voluntary. Licensure, registration, accreditation, approval, certification, recognition or endorsement may be used . . . but this terminology is not applied consistently across different settings and countries. Credentials are marks or "stamps" of quality and achievement communicating to employers, payers and consumers what to expect from a credentialed nurse. (Styles & Affara, 1998, p. 44)

This article describes a program of research being implemented to investigate the outcomes of certification in the U.S. and Canadian nurse workforces and the relevance of certification to the goal of providing policy makers with pragmatic, action-oriented recommendations. Such recommendations may encompass policy issues of workforce production, regulation, distribution, financing, and overseeing of credentialing organizations.

THE PROBLEM

Both the Pew Health Professions Commission Reports (Finocchio, Dower, Blick, Gragnola, & the Taskforce on Health Care Workforce Regulation, 1998; Finocchio, Dower, McMahan, Gragnola, & the Taskforce on Health Care Workforce Regulation, 1995) and the Consumer Advocacy Center (Swankin, 1999) have articulated the promise and peril of credentialing in protecting the public's health. The promise offers a vision of the world where what gets measured gets better, as in the case of nurses preparing to be measured for their knowledge and skills in a discrete area as part of the certification process. This process then presumably allows purchasers, employers, and consumers to make informed decisions about the quality of a provider based on the provider's certification status. Absent from this vision, however, have been robust data measuring the impact of certification on nurse practices and patient outcomes. Compounding the impact of insufficient data are other perils of certification, including the self-interests of credentialing boards, economic incentives of the credentialing enterprise, inconsistent standards of performance among cre-

credentialing organizations, administrative management, and inadequate consumer membership on boards.

More questions have been raised than answers provided about the value of the certification enterprise in assuring quality outcomes in nursing practice. Although anecdotes provide a collective description of certification, the absence of research data on sufficient numbers of nurses, consumers, and employers to document the full impact of certification on quality outcomes leaves us with a mystery in search of clues.

BACKGROUND

The extent and persuasiveness of the research on nursing practice outcomes of certified nurses before 2000 has been minimal for stakeholders. As of 2000, more than 67 organizations are known to offer certification for registered nurses. These organizations issue at least 95 credentials recognizing at least 134 distinct nursing practices or specialties. Research on variables of interest in certification during the past decade have focused on demographics, personal, and professional attributes of certified nurses. Most studies have examined process to the exclusion of outcomes. Few studies have included controls, and sample sizes have been small; therefore, conclusions remain at the descriptive or loose association level. Table 1 categorizes the published (or soon to be published) research on certification of nurses.

THE PROGRAM OF RESEARCH

With an eye toward policy implications, the Nursing Credentialing Research Coalition (NCRC) initiated its research endeavor in 1998. A confluence of factors supported the NCRC research initiative: coalition development and refinement of NCRC purpose and mission, champions (i.e., Drs. Margaretta Styles, Carolyn Lewis, and Marcia Stanhope), establishment of a scholar-in-residence research position, and funding streams. To date, NCRC is composed of 25 organizations that support the mission of establishing a scientific basis for understanding the credentialing of nursing professionals. Of these 25 organizations, 23 provide certification products. The Canadian Nurses

TABLE 1: Variables Apparent in Certification Research

<i>Consumer</i>	<i>Personal Attributes</i>	<i>Professional Attributes</i>	<i>Nursing Practice Outcomes</i>
Wirthlen Worldwide (1999): consumer confidence	Coleman et al. (1999): motivation and achievement Redd and Alexander (1997): self-esteem	Coleman et al. (1999): professional growth Iberty et al. (1994); Pettinger, Woods, and Herndon (1993); Walthall et al. (1993): greater clinical knowledge	Rudy et al. (1995); Lombness (1994): rate of complications Cary (2000): signs and symptoms of complications,
Cary (2000): confidence in care	Fetzer (1997): motivation and meaning Tenney, Golden-Baker, DeMoucel, and Wians (1993): pride and self-esteem Cary (2000): recognition, growth, personal satisfaction, financial rewards	Laffoon (1994): current clinical knowledge, continuing education Redd and Alexander (1997): job performance Hughes et al. (1999): work cohesion, commitment, job satisfaction Cary (2000): competence, satisfaction, credibility, control, autonomy, collaboration, consultation, fulfillment of career aspirations, advance- ment, membership in professional organizations	early/prompt interventions for complications, patient satisfaction, and adverse events (errors)

Association provides international representation in NCRC. The American Board of Nursing Specialties and the Division of Nursing from the Health Resources and Services Administration of the U.S. Department of Health and Human Services (DHHS) hold a seat on NCRC. The American Nurses Credentialing Center (ANCC), the largest NCRC member, provides funding for the scholar-in-residence activities. NCRC members fund meeting attendance and the research program. More than 410,000 certification holders in nursing are represented by NCRC organizations.

The program of research is founded on the principle of staging. In Stage 1, common data elements necessary to track the certified nurse workforce were identified so that demographic and distribution characteristics could be trended once NCRC organizations agreed to collect the data elements at application and reapplication points. NCRC organizations reported on the status of data elements in their current system and agreed to build capacity in future systems to meet the requirements of the elements.

Stage 2 embraced a focus-group methodology to augment the review of literature describing characteristics (personal, professional, and prac-

tice) of certified and noncertified nurses. Separate focus-group discussions of noncertified and certified nurses, nurses representing professional organizations and employers, and nurse researchers were conducted to determine additional variables for inclusion in the remaining stages of research. From the focus groups and literature reviews emerged personal, professional, and practice characteristics that could be designated for data collection from the perspective of the nurse, the patient, and the employer/work environment.

Stage 3 of the research program examined the personal, professional, and practice outcomes of certified nurses in the United States and Canada. Stages 3, 4, and 5 of the research program will establish answers to the questions about the certified nurse workforce as illustrated in Figure 1.

Examples of data generated by stakeholders in each stage include the following:

Stage 3: *Nurses*—achievement, credibility, career development, communication, inquiry, adverse events, interventions, financial factors

Stage 4: *Patients*—patient satisfaction, functional status, consumer preferences, time lines of care

What are the characteristics of certified nurses?

How does certification reflect nurses' career development, performance, personal development, practice parameters?

How do certified nurses influence the process and outcomes of care for patients?

How do certified nurses impact their work environment?

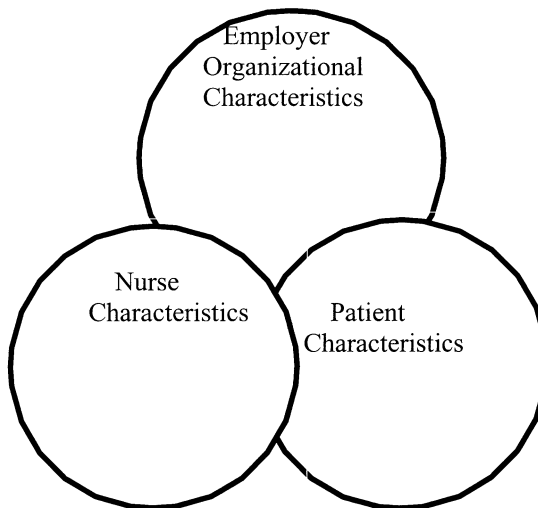


Figure 1: Perspectives and Questions on the Certification Inquiry

Stage 5: *Employers/Work Environment*—staff stability/retention, costs/cost effectiveness, adverse events, unit practices, readmission rates

HIGHLIGHTS FROM NURSES' PERSPECTIVES

Stage 3 data collection is complete for more than 19,000 certified nurse respondents (48.2% return rate) from a randomly drawn sample of about 40,000 nurses holding certification from at least 1 of 20 NCRC certifying bodies. More than 50 different credentials were reported by respondents. The sample represented the 50 U.S. states, Washington, D.C., Puerto Rico, the Virgin Islands, and the Canadian provinces. In comparing the demographics of the NCRC-certified nurses with those of the general nurse population found by the 1996 U.S. DHHS National Sample Survey of Registered Nurses (NSSRN) (Health Resources and Services Administration, 1997), a higher percentage of certified nurses was Caucasian (93% vs. 89.7%). Certified nurses were also older in mean age (47.2 years vs. 44.3 years). Certified nurses reported 22 years as the mean and median years of experience in nursing and had held at least one certification for a mean of 7.8 years—at least one recertification cycle. In terms of education, 1.64% of certified

nurses now held doctoral degrees and 37% held a diploma or an associate degree as their first degree, although they may have received additional higher degrees later. Marital status in the study was equivalent to the 1996 NSSRN results.

Professional Characteristics

Almost 13% of certifications were allowed to expire, reflecting that nurses are shifting practice areas. Although only 1.9% of currently certified nurses were retired, 11.6% of NSSRN respondents reported being retired. To meet recertification requirements, nurses predominantly used continuing education and documentation of practice hours. Less than 20% were recertified by reexamination, peer review, work site proficiency testing, self assessment, or portfolios. Almost half (47.1%) reported one or more direct/indirect financial rewards for certification, including reimbursement for costs, salary increases, bonuses, and promotions. Less than one third (28%) indicated they received no financial rewards from certification. More than one half (55%) reported they were recognized as experts by colleagues and that certification status was publicized and recognized at the workplace (44%). Annual salaries were most frequently reported in the \$50,001 to \$75,000 range (41.1% of respondents).

Practice Outcomes

Six practice outcomes were reported by more than 50% of certified nurses as being enhanced by their certification: satisfaction as a professional nurse, personal growth, skill competence, credibility, accountability, and confidence in practice. Nurses also reported more confidence in decision making, ability to detect and initiate early interventions for patient complications, collaboration and communication effectiveness, control over practice, higher patient satisfaction ratings, and fewer adverse incidents in patient care. Almost 5% of certified nurses reported that none of the practice outcomes listed were enabled by their certification.

DISCUSSION

Certified nurses revealed important characteristics about their personal and professional demographics as well as practice outcomes. There are clear differences between the demographic descriptions of certified nurses and the general nurse population surveyed in the NSSRN of 1996. The 3-year span between surveys is unlikely to account for these differences. Black/African Americans are underrepresented and Caucasians were overrepresented among certified nurses compared to nurses at large. However, after adjusting for the 3-year interval between surveys, certified nurses were similar in mean age to the general nurse workforce. Compared to the NSSRN survey of the nurse population, certified nurses were more likely to be employed as nurse practitioners, educators, managers, clinical nurse specialist, consultants, coordinators/case managers, staff development personnel, researchers, quality assurance/quality improvement personnel, and school nursing personnel. Almost 50% of the work time reported by certified nurses was, however, in direct patient care activities. Clearly, certified nurses were engaged in direct clinical care for patients. Eighteen percent worked in facilities with a bed size in excess of 500, whereas 36% worked in facilities with a bed size of 251 to 500. In characterizing practice sites in terms of annual visits, certified nurses had the highest penetration in small (less than 10,001 visit) facilities or large (more than 100,000) visit facilities and with clients experiencing acute or unstable/stable chronic

conditions. Of certified nurses, 23% worked in communities with an upper limit of 49,999 residents, whereas small rural communities with populations under 2,500 had only 3.3% of the certified workforce. Spending a lower percentage of their time in direct patient care, certified nurses reported a larger percentage of time in teaching compared to NSSRN respondents. This may reflect additional teaching activities to students and staff as well as patients—all of which should result in direct care outcomes for patients that are similar to those achieved by the certified nurse. However, this influence remains to be confirmed in Stages 4 and 5 of the research.

Certified nurse practice outcomes enabled by certification are particularly intriguing. Certified nurses reported three critical characteristics related to lower patient mortality (Aiken, Smith, & Lake, 1994) and higher patient satisfaction (Aiken, Sloane, & Lake, 1997) and found in nurses employed at “magnet” nursing facilities. Magnet facilities have nurse practices that promote nurse autonomy, nurse control over practice environments, and favorable relations with physicians. In the NCRC study, certified nurses reported that certification enabled their sense of autonomy, control over practice, and collaboration with physicians. In addition, certification resulted in increased professional self-worth of nurses in terms of confidence, accountability, satisfaction, credibility, and competency. These characteristics are critical to fully employing one’s role as a competent professional in today’s fast-paced, chaotic delivery systems. Importantly, certification enabled nurses’ surveillance and early intervention practices with patients. Because not all adverse events are preventable or attributable to the error of providers or systems, the ability of the nurse to recognize and intervene in sentinel signs/symptoms during the trajectory of the patient’s condition is critical to outcomes of adverse events.

The Institute of Medicine (IOM) defines *medical error* as the failure to complete a planned action as designed, or the use of the wrong plan to achieve a goal. *Adverse events* are injuries caused by medical management rather than the underlying disease or condition of a patient (Kohn, Corrigan, & Donaldson, 1999). Although the IOM emphasizes that medical errors are system-related, a survey conducted by the American Society of Health

System Pharmacists found that Americans are concerned about the failures of independent providers. Sixty-nine percent thought the problem could be solved through "better training of health professionals" (Agency for Healthcare Research and Quality, 2000). The public perception of sources of medical error as attributable to providers suggests a clear need to understand the relationship of individual providers to medical error, to distinguish safe providers, and to take corrective actions to restore public trust.

CONCLUSIONS

The results of the largest study of the certified nurse workforce in the United States and Canada indicate that nurses view the certification process as having an impact on their personal, professional, and practice outcomes. Given that Stage 3 of the NCRC International Study of Certified Registered Nurses provides an initial understanding of the nature of the certified workforce, practice outcomes, and patient safety factors embedded in quality care, it is incumbent on the profession to provide subsequent research data as envisioned and designed in the study's fourth and fifth stages. Comparative consumer and employer/payor data related to certified and noncertified nurses will either confirm or reveal divergent factors related to quality in the certified nurse workforce. The use of primary data and adjuvant secondary databases will provide a complete picture of the complex implications of nursing certification for quality outcomes. Clearly, federal, state, and foundation funding to augment the existing NCRC funding will enable the study to achieve a comprehensive and methodologically robust outcome.

Policy research implications have emerged in the present research. Workforce production has been traditionally couched in terms of graduation, licensure, and immediate employment. Clearly, there is a "higher plane" that includes matching the distinguished practice credentials of the nurse to the nature of a patient's needs being served. If licensure is the floor-level litmus test for safe nursing practice, disciplinary demographics and the current research would suggest that certification functions as a beam or pillar of support for ceiling-level expectations about practice outcomes. Should this suggestion be subsequently confirmed,

the voluntary nature of the certification process will bear future reconsideration by regulators and the public. Workforce distribution patterns observed in this study suggest that the same patterns of traditionally underserved rural and inner-city areas, contrasted with well-saturated provider areas in the general nurse workforce, may be taking the same shape in the certified nurse population. Ethnic distribution of the certified nurse workforce is also a concern raised by the study. Policy initiatives that seek to increase production, penetration, and distribution of nurses are challenged by these Stage 3 results to consider more than the "body count" approach, especially in light of demand for high-quality delivery and outcomes.

Policy financing issues are also raised by these findings. Conditions of participation for Medicare and Medicaid providers often specify the credentialing vehicles necessary for minimum eligibility for reimbursement of services and have traditionally relied on licensure methods. Findings suggest that conditions of participation could be strengthened by including certification credentialing. Institutional financial policies that base performance awards on quality practice outcomes could enhance incentives for nursing staff to obtain certification. Clearly, consumers report they would be more confident if they knew their nurse was a board-certified specialist (Wirthlen Worldwide, 1999). The employment of certified nurses would appear to heed public opinion polls that indicate patients equate nursing care with quality health care.

The certification enterprise composed of more than 65 certifying bodies from which nurses seek certification has been challenged by foundation and consumer studies to provide performance improvement initiatives to strengthen the validity and reliability of the certification product. The 23 NCRC organizations have made a financial commitment to investigate the impact of certification for workforce and quality outcomes. The remaining 42 credentialing organizations are invited to join the challenge to discover data that will demonstrate the quality features of credentialing and its protective benefits to the public as well as provide recommendations for improving the credentialing process.

Policy makers, consumers, employers, and providers should be poised to serve as collaborators and constituents for the research endeavor. With quality health care at the pinnacle of public concern, the convergence of policy influences may be coming to a head. Clearly, the NCRC research initiative and the data being collected will enrich the policy options available to ensure the quality of health care providers. Perhaps the NCRC data will support a new mantra for the public: "Every patient deserves a certified nurse."

REFERENCES

- Agency for Healthcare Research and Quality. (2000). *Medical errors: The scope of the problem*. fact sheet [Online]. (Publication No. AHRQ 00-PO37). Rockville, MD: Author. Available: <http://www.ahrq.gov/clinic/errback.htm>
- Aiken, L. H., Sloane, D. M., & Lake, E. T. (1997). Satisfaction with inpatient AIDS care. *Medical Care*, 35(9), 948-962.
- Aiken, L. H., Smith, H. L., & Lake, E. T. (1994). Lower Medicare mortality among a set of hospitals known for good nursing care. *Medical Care*, 32, 771-787.
- Cary, A. H. (2000). *Nursing credentialing research coalition (NCRC) international sample survey of certified registered nurses*. Washington, DC: American Nurses Credentialing Center.
- Cary, A. H. Certified registered nurses: Results from the International Study of the Certified Workforce. *American Journal of Nursing* (in press).
- Coleman, E. A., Frank-Stomberg, M., Hughes, L. C., Grindell, C. G., Ward, S., Berry, D., Oleske, D. M., & Murphy, C. M. (1999). The national survey of certified, recertified & non-certified oncology nurses: Comparisons & contrasts. *ONF*, 26(5), 839-849.
- Fetzer, S. J. (1997). Practice characteristics of the dual certificant—CPAN/CAPA . . . certified post anesthesia nurses . . . certified ambulatory perianesthesia nurse. *Journal of Perianesthesia Nursing* 12(4), 240-244.
- Finocchio, L. J., Dower, C. M., McMahon, T., Gagnola, C. M., & the Taskforce on Health Care Workforce Regulation. (1995). *Reforming health care workforce regulation: Policy considerations for the 21st century*. San Francisco: Pew Health Professions Commission.
- Finocchio, L. J., Dower, C. M., Blick, N. T., Gagnola, C. M., & the Taskforce on Health Care Workforce Regulation. (1998). *Strengthening consumer protection: Priorities for health care workforce regulation*. San Francisco: Pew Health Professions Commission.
- Gray, B. B. (1998, November). Editor's note: Does your heart race when you hear the words "competency testing"? If so, you're not alone. *Nurseweek*, 19 [Online]. Available: <http://www.nurseweek.com/endnote/98/981119.html>
- Health Resources Services Administration. (1997). *The Registered Nurse Population, March 1996. Findings from the National Sample Survey of Registered Nurses*. Washington, DC: Division of Nursing, Bureau of Health Professions.
- Hughes, L. C., Ward, S., Grindel, C. G., Coleman, E. A., Berry, D. L., Hinds, P. S., Oleske, D. M., Murphy, C. M., & Frank-Stromborg, M. (1999). *Relationships among OCN certification as a measure of career orientation and variables that reflect job perceptions of oncology nurses*. Manuscript submitted for publication.
- Iberti, T. J., Daily, E. K., Leibowitz, A. B., Schecter, C. B., Fischer, E. P., & Silverstein, J. H. (1994). Assessment of critical care nurses' knowledge of the pulmonary artery catheter. *Critical Care Medicine*, 22, 1674-1678.
- Kohn, L. T., Corrigan, J. M., & Donaldson, M. (Eds.). (1999). *To err is human*. Washington, DC: National Academy Press.
- Laffoon, T. G. (1994). *Certification in peri-operative nursing: A descriptive study of certified and non-certified nurses working in the operating room setting*. Unpublished master's thesis, University of Iowa, Iowa City.
- Lombness, P. M. (1994). Difference in length of stay with care managed by a clinical nurse specialist or physician assistant. *Clinical Nurse Specialist*, 8, 253.
- Pettinger, A. M., Woods, S. L., & Herndon, S. P. (1993). Pediatric critical care nurses' knowledge of cardiac dysrhythmias. *American Journal of Critical Care*, 2, 378-384.
- Redd, M. L., & Alexander, J. W. (1997). Does certification mean better performance? *Nursing Management*, 28, 45-49.
- Rossi, P. H., Wright, J. D., & Wright, S. R. (1978). The theory and practice of applied social research. *Evaluation Quality*, 2(2), 171-191.
- Rudy, E. B., Daly, E. B., Daigler, S., Montenegro, H. D., Song, R., & Dyer, M. A. (1995). Patient outcomes for the chronically clinically ill: Special care unit versus intensive care unit. *Nursing Research*, 44, 324.
- Styles, M. M. (1999). Credentialing is a global profession in progress. Part I: Measuring up. In A. H. Cary & C. Wharton (Eds.), *Quality assurance through credentialing. Vol 1: Global perspectives* (pp. 11-25). Washington, DC: American Nurses Credentialing Center.
- Styles, M. M., & Affara, A. F. (1998). *ICN on regulation: Towards 21st century models*. Geneva, Switzerland: International Council of Nurses.
- Swankin, D. (1999). What drives Nurses Credentialing? In A. H. Cary & C. Wharton (Eds.), *Quality assurance through credentialing* (Vol. 2, pp. 27-37). Washington, DC: American Nurses Credentialing Center.
- Tenney, J., Golden-Baker, S. B., DeMoucell, P. J., & Wians, K. M. (1993). Empowerment through rehabilitation nursing certification. *Rehabilitation Nursing*, 18(4), 231-236.
- Walthall, S. A., Odothan, C. B., McCoy, M. A., Fromm, B., Frankovich, D., & Lehman, M. H. (1993). Routine withholding of digitalis for heart rate below 60 beats per minute: Widespread nursing misconception. *Heart and Lung*, 22, 472-476.
- Wirthlen Worldwide. (1999, March). National Quorum Telephone Survey of 1040 American Adults. Unpublished raw data.

Ann H. Cary, PhD, MPH, RN, A-CCC, is the Scholar in Residence at the American Nurses Credentialing Center where she directs the international program of research for the field of credentialing. She also serves as the editor in chief for the Journal of Credentialing in Healthcare. She is a professor at George Mason University in the College of Nursing and Health Science and staffs projects for the Center for Health Policy, Research, and Ethics. She is chair of the Congress of Nursing Practice and Economics at the American Nurses Association, vice chair of the National Fund for Medical Education, past president of the Primary Care Fellowship Society, and a primary care policy fellow.